

APPROVED BY	O.G. FIG.	SUBCLASS
	CLASS	

CRAFTSMAN

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Alpha-Galactosidase  
Applicant(s): Murphy, et al.  
Appl. No.: 09/619,032





APPROVED	O. G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

AAG	GAC	AAC	GGT	TAT	GAG	TAT	CTA	TTC	GCC	GAC	GGG	GAG	GCG	ATG	CTT	432
Lys	Asp	Asn	Gly	Tyr	Glu	Tyr	Leu	Phe	Ala	Asp	Gly	Glu	Ala	Met	Leu	
130			135													
TTC	TCA	GCT	CAT	CTC	AAC	TCG	GGG	ATA	AAG	CCA	ATT	AAA	CCG	CTC	TAT	480
Phe	Ser	Ala	His	Leu	Asn	Ala	Ser	Ala	Ile	Lys	Pro	Ile	Lys	Pro	Leu	
145			150													
CCA	CAC	CTT	ATA	AAG	GCC	CAA	AGG	GAA	AAG	CCG	TTT	AGG	TAC	ATC	AGC	528
Pro	His	Leu	Ile	Lys	Ala	Gln	Arg	Glu	Lys	Arg		Phe	Arg	Tyr	Ile	
165			170													
TAT	CTC	CTT	GGT	CTC	AGG	GAG	CTT	AGG	AAG	GCG	ATA	AAG	CTC	GTT	TTT	576
Tyr	Leu	Leu	Gly	Leu	Arg	Glu	Leu	Arg	Lys	Ala	Ile	Lys	Leu	Val	Phe	
180			185													
GAA	GGT	AAG	GTA	ACG	CTA	AAG	GCA	GTC	AAA	GAC	ATC	GAA	GCC	GTA	CCC	624
Glu	Gly	Lys	Val	Thr	Leu	Lys	Ala	Val	Val	Val	Asp	Ile	Glu	Ala	Val	
195			200													
GTT	TGG	GTG	GCC	GTG	AAC	ACG	GCT	GTA	ATG	CTC	GGC	ATC	GGA	AGG	CTT	672
Val	Trp	Val	Ala	Val	Asn	Thr	Ala	Val	Ala	Met	Leu	Ile	Gly	Ile	Arg	
210			215													
CCT	CTT	ATG	AAT	CCT	AAG	AAA	GTG	GCG	AGC	TGG	ATA	GAG	GAC	AAG	GAC	
Pro	Leu	Leu	Met	Asn	Pro	Lys	Val	Ala	Ser	Trp	Ile	Glu	Asp	Lys	Asp	
225			230													
AAC	ATT	CTT	CTA	TAC	GGC	ACC	GAT	ATA	GAG	TTC	ATT	GGC	TAT	AGG	GAC	768
Asn	Ile	Leu	Leu	Tyr	Gly	Thr	Asp	Ile	Glu	Phe	Ile	Gly	Tyr	Arg	Asp	
245			250													



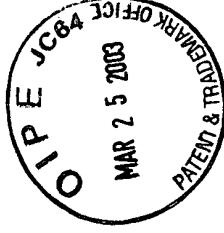
Appln No.: 09/619,032  
 Applicant(s): Murphy, et al.  
 ALPHA-GALACTOSIDASE

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APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

ATT	GCA	GGC	TAC	AGA	ATG	AGT	GTT	GAG	GGA	TTA	TGA	GTT	ATA	GAC	816
Ile	Ala	Gly	Tyr	Arg	Met	Ser	Val	Glu	Gly	Leu	Leu	Glu	Val	Ile	Asp
260							265								
GAG	CTC	AAC	TCG	GAA	CTG	TGC	CTT	CCC	TCA	GAG	CTG	AAG	CAC	AGT	864
Glu	Leu	Leu	Asn	Ser	Glu	Leu	Cys	Leu	Pro	Ser	Glu	Leu	Lys	His	
275							280								
AGG	GAG	CTC	TAC	TTA	CGG	ACT	TCG	AGT	TGG	GCA	CCA	GAT	AAG	AGC	912
Arg	Glu	Leu	Tyr	Leu	Arg	Thr	Ser	Ser	Trp	Ala	Pro	Asp	Lys	Ser	
290							295								
AGG	ATA	TGG	AGA	GAG	GAC	GAA	GGG	AAC	GCA	AGA	CTT	AAT	ATG	CTG	960
Arg	Ile	Trp	Arg	Glu	Asp	Glu	Gly	Asn	Ala	Arg	Leu	Asn	Met	Leu	
305							310								
TAC	AAT	ATG	AGG	GGC	GAA	CTC	GCC	TTT	TTA	GCC	GAG	AAC	AGC	GAT	1008
Tyr	Asn	Met	Arg	Gly	Glu	Leu	Ala	Phe	Leu	Ala	Glu	Asn	Ser	Asp	
325							330								
AGG	GGA	TGG	GAG	CCC	CTC	CCT	GAG	AGG	CTG	GAT	GCC	TTC	CGG	GGG	1056
Arg	Gly	Trp	Glu	Pro	Leu	Pro	Glu	Arg	Arg	Leu	Asp	Ala	Phe	Arg	
340							345								
ATA	TAT	AAC	GAT	TGG	AGG	GGT	GAA	AAT	GGG	GAA	CCT	TAG			1095
Ile	Tyr	Asn	Asp	Trp	Arg	Gly	Glu	Asn	Gly	Glu	Pro	END			
355							360								
365															

FIG. 1c



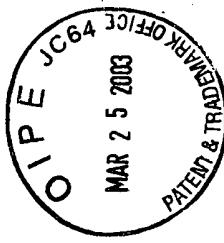
**FIG. 1**

TTG	AGA	GGC	CTC	GTC	TTT	CAC	GGC	AAC	CTC	CAG	TAT	GCC	GAA	ATC	CCA	48
Ileu	Arg	Ala	Leu	Leu	5	Phe	His	Gly	Asn	Ileu	Gln	Tyr	Ala	Glu	Ile	Pro
AAG	AGC	GAA	ATC	CCA	AAG	GTC	ATA	GAG	AAG	GCA	TAC	ATC	CCA	GTC	ATC	96
Lys	Ser	Glu	Ile	Pro	Lys	Val	Ile	Glu	Lys	Ala	Tyr	Ile	Pro	Val	Ile	
GAG	ACA	CTG	ATT	AAA	GAA	GAA	ATT	CCT	TTT	GGG	CTC	AAC	ATA	ACG	GGC	144
Glu	Thr	Leu	Ile	Lys	Glu	Glu	Ile	Pro	Phe	Gly	Leu	Asn	Ile	Thr	Gly	
TAT	ACC	TTA	AAG	TTC	CTC	CCG	AAG	GAT	ATT	ATA	GAC	CTC	GTT	AAA	GGG	192
Tyr	Thr	Leu	Lys	Phe	Leu	Phe	Lys	Asp	Ile	Ile	Asp	Leu	Val	Lys	Gly	
GGC	ATC	GGC	AGT	GAC	CTG	ATA	GAG	ATA	ATC	GGG	AGC	TAC	ACG	CAC	240	
Gly	Ile	Ala	Ser	Asp	Leu	Ile	Glu	Ile	Gly	Thr	Ser	Tyr	Thr	His		
GCA	ATA	CTC	CCC	CTC	CTG	CCG	CTT	AGC	AGA	GAA	GCA	CAA	GTT	CAG	288	
Ala	Ile	Leu	Pro	Leu	Ile	Glu	Ile	Leu	Ser	Arg	Val	Glu	Ala	Gln		
AGA	GAT	AGG	GAA	GTT	AAG	GAA	GAG	CTC	TTC	GAG	GTT	TCT	CCA	AAG	GGA	336
Arg	Asp	Arg	Glu	Val	Lys	Glu	Glu	Ileu	Leu	Phe	Glu	Val	Ser	Pro	Lys	
TTC	TGG	CTG	CCA	GAG	CTC	GCC	TAT	GAC	CCG	ATA	ATC	CCT	GCC	ATA	CCTG	384
Phe	Trp	Leu	Pro	Glu	Leu	Ala	Tyr	Asp	Pro	Ile	Ile	Pro	Ala	Ile	Leu	



**FIG. 14B**

AAG	GAC	AAC	GGT	TAT	GAG	TAT	CTA	TTC	GCC	GAC	GGG	GAG	GCG	ATG	CTT	432
Lys	Asp	Asn	Gly	Tyr	Glu	Tyr	Leu	Phe	Ala	Asp	Gly	Ala	Ala	Met	Leu	
130			135						140							
TTC	TCA	GCT	CAT	CTC	AAC	TCG	GGG	ATA	AAG	CCA	ATT	AAA	CCG	CTC	TAT	480
Phe	Ser	Ala	Ser	Ala	His	Leu	Asn	Ala	Ile	Lys	Pro	Ile	Lys	Pro	Leu	Tyr
145					150					155					160	
CCA	CAC	CCT	ATA	AAG	GCC	CAA	AGG	GAA	AAG	CGC	TTT	AGG	TAC	ATC	AGC	528
Pro	His	3Leu	Ile	Lys	Ala	Gln	Arg	Glu	Lys	Arg	Phe	Arg	Tyr	Ile	Ser	
					165				170				175			
TAT	CTC	CTT	GGT	CTC	AGG	GAG	CTT	AGG	AAG	GCG	ATA	AAG	CTC	GTT	TTT	576
Tyr	Leu	Leu	Gly	Leu	Arg	Glu	Leu	Arg	Lys	Ala	Ile	Lys	Leu	Val	Phe	
					180				185				190			
GAA	GGT	AAG	GTA	ACG	CTA	AAG	GCA	GTC	AAA	GAC	ATC	GAA	GCC	GTA	CCC	624
Glu	Gly	Lys	Val	Thr	Leu	Lys	Ala	Val	Lys	Asp	Ile	Glu	Ala	Val	Pro	
					195							205				
GTT	TGG	GTG	GCC	GTG	AAC	ACG	GCT	GTA	ATG	CTC	GGC	ATC	GGA	AGG	CTT	672
Val	Trp	Val	Ala	Val	Asn	Thr	Ala	Val	Met	Leu	Gly	Ile	Gly	Arg	Leu	
					210						220					
CCT	CTT	ATG	AAT	CCT	AAG	AAA	GTG	GCG	AGC	TGG	ATA	GAG	GAC	AAG	GAC	720
Pro	Leu	Met	Asn	Pro	Lys	Lys	Val	Ala	Ser	Trp	Ile	Glu	Asp	Lys	Asp	240
					215					235						
AAC	ATT	CTT	CTA	TAC	GGC	ACC	GAT	ATA	GAG	TTC	ATT	GGC	TAT	AGG	GAC	768
Asn	Ile	Leu	Leu	Tyr	Gly	Thr	Asp	Ile	Glu	Phe	Ile	Gly	Tyr	Arg	Asp	
					245					250			255			



**FIG. 1C**

ATG	GCA	GGC	TAC	AGA	ATG	AGT	GTT	GAG	GGA	TTA	GAG	GTT	ATA	GAC	816	
Ile	Ala	Gly	Tyr	Arg	Met	Ser	Val	Glu	Gly	Leu	Leu	Glu	Val	Ile	Asp	
260							265						270			
GAG	CTC	AAC	TCG	GAA	CTG	TGC	CTT	CCC	TCA	GAG	CTG	AAG	CAC	<i>ATG</i>	864	
Glu	Leu	Asn	Ser	Glu	Glu	Leu	Cys	Leu	Pro	Ser	Glu	Leu	Lys	His	Ser	Gly
275							280						285			
AGG	GAG	CTC	TAC	TTA	CGG	ACT	TCG	AGT	TGG	GCA	CCA	GAT	AAG	AGC	TTG	912
Arg	Glu	Leu	Tyr	Ile	Arg	Thr	Ser	Ser	Ser	Trp	Ala	Pro	Asp	Lys	Ser	Leu
290							295						300			
AGG	ATA	TGG	AGA	GAG	GAC	GAA	GGG	AAC	GCA	AGA	CTT	AAT	ATG	CTG	TCC	960
Arg	Tle	Trp	Arg	Glu	Asp	Glu	Gly	Asn	Ala	Arg	Leu	Asn	Met	Leu	Ser	
305							310						315			
TAC	AAT	ATG	AGG	GGC	GAA	CTC	GCC	<i>T</i>	TTA	GCC	GAG	AAC	AGC	GAT	GCA	1008
Tyr	Asn	Met	Arg	Gly	Glu	Leu	Ala	<i>T</i>	Leu	Ala	Glu	Asn	Ser	Asp	Ala	
325							330						335			
AGG	GGA	TGG	GAG	CCC	CTC	CCT	GAG	AGG	CTG	GAT	GCC	TTC	CGG	GCG	1047	
Arg	Gly	Trp	Glu	Pro	Leu	Pro	Glu	Arg	Arg	Leu	Asp	Ala	Phe	Arg	Ala	
340							345						350			
ATA	TAT	AAC	GAT	TGG	AGG	GGT	GAA	AAT	GGG	GAA	CCT	TAG			1086	
Ile	Tyr	Asn	Asp	Trp	Arg	Gly	Gly	Glu	Glu	Asn	Gly	Glu	Pro	End		
355							360						365			